

09/120,664

(FILE 'HOME' ENTERED AT 13:59:13 ON 04 JUN 1999)

INDEX 'CAPLUS, APIPAT, CROPU, DGENE, DPCI, EUROPATFULL, IFIPAT, INPADOC,  
JAPIO, PAPERCHEM2, PATDD, PATDPA, PATOSDE, PATOSEP, PATOSWO, PIRA,  
RAPRA,  
TULSA, TULSA2, USPATFULL, WPIDS, WPINDEX' ENTERED AT 14:00:40 ON 04 JUN  
1999

SEA (ZN OR ZINC) (2A) (PYRITHION? OR PYRIDINETHION?)

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346 FILE CAPLUS  
5 FILE APIPAT  
6 FILE CROPU  
30 FILE DPCI  
120 FILE EUROPATFULL  
78 FILE IFIPAT  
34 FILE INPADOC  
44 FILE JAPIO  
1 FILE PAPERCHEM2  
11 FILE PATOSEP  
11 FILE PATOSWO  
1 FILE PIRA  
7 FILE RAPRA  
409 FILE USPATFULL  
102 FILE WPIDS  
102 FILE WPINDEX

L1

QUE (ZN OR ZINC) (2A) (PYRITHION? OR PYRIDINETHION?)

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SEA L1 AND (ANTIMICROB? OR BIOCID? OR ANTIFUNG?)

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80 FILE CAPLUS  
2 FILE APIPAT  
6 FILE DPCI  
42 FILE EUROPATFULL  
33 FILE IFIPAT  
1 FILE INPADOC  
9 FILE JAPIO  
1 FILE PAPERCHEM2  
2 FILE PATOSEP  
6 FILE PATOSWO  
1 FILE PIRA  
6 FILE RAPRA  
245 FILE USPATFULL  
36 FILE WPIDS  
36 FILE WPINDEX

L2

QUE L1 AND (ANTIMICROB? OR BIOCID? OR ANTIFUNG?)

-----  
SEA L2 AND (ZINC OXIDE?)

-----  
3 FILE CAPLUS  
1 FILE APIPAT  
5 FILE EUROPATFULL  
2 FILE IFIPAT  
1 FILE PATOSWO  
43 FILE USPATFULL  
4 FILE WPIDS  
4 FILE WPINDEX

L3

QUE L2 AND (ZINC OXIDE?)  
-----

SEA L3 AND (POWDER? OR PARTICLE? OR COMPOSITE?)

-----  
1 FILE CAPLUS  
1 FILE APIPAT  
5 FILE EUROPATFULL  
1 FILE PATOSWO  
23 FILE USPATFULL

L4

-----  
QUE L3 AND (POWDER? OR PARTICLE? OR COMPOSITE?)  
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FILE 'USPATFULL, EUROPATFULL, CAPLUS, APIPAT, PATOSWO' ENTERED AT  
14:06:01 ON 04 JUN 1999

L5

31 S L4

L6

29 DUP REM L5 (2 DUPLICATES REMOVED)

FILE 'CAPLUS' ENTERED AT 14:23:07 ON 04 JUN 1999

L7

0 S (ZINC OXIDE?) (L) (ZINC PYRITHIONE? OR ZINC  
PYRIDINETHION?) (L) (

L8 3 S (ZINC OXIDE?) (L) (ZINC PYRITHIONE? OR ZINC PYRIDINETHION?)

L9 0 S L8 AND (COMPOSITE? OR PARTICLE? OR POWDER?)

L10 8198 S (COMPOSITE) (2A) (PARTICLE? OR POWDER?)

L11 0 S L10 (L) (ZN OR ZINC) (2A) (PYRITHION? OR PYRIDINETHION?)

L12 0 S L10 AND (ZN OR ZINC) (2A) (PYRITHION? OR PYRIDINETHION?)

L13 16 S (PARTICLE? OR POWDER? OR COMPOSITE) (10A) (ZN OR  
ZINC) (2A) (PYRI

L14 1 S L13 AND (ZINC OXIDE?)

L15 33 S (PARTICLE? OR POWDER? OR COMPOSITE?) (L) (ZN OR

ZINC) (2A) (PYRIT

L16 33 DUP REM L15 (0 DUPLICATES REMOVED)

L17 33 S L16

L18 9 S L16 AND (OXIDE? OR ZINC OXIDE?)

L19 16 S (GAVIN, D ? OR GAVIN D ?)/AU, IN

L20 6 S (WALDRON, C ? OR WALDRON C ?)/AU, IN

L21 1167 S (MARTIN, R ? OR MARTIN R ?)/AU, IN

L22 0 S (POLSON, G ? OR POLSON G ?)/AU, IN

L23 0 S L19 AND (L20 OR L21 OR L22)

L24 1189 S L19 OR L20 OR L21 OR L22 OR L23

L25 0 S L24 AND (PYRITHION? OR PYRIDINETHION?)

L14 ANSWER 1 OF 1 CAPLUS COPYRIGHT 1999 ACS  
 AN 1994:540672 CAPLUS  
 DN 121:140672  
 TI Manufacture of antibacterial filtering materials  
 IN Nagata, Kenji; Ueno, Sadamitsu; Hotsuta, Hiroshi  
 PA Shinto Paint Co Ltd, Japan  
 SO Jpn. Kokai Tokkyo Koho, 6 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 06134227	A2	19940517	JP 92-311206	19921026

=> d ab

L14 ANSWER 1 OF 1 CAPLUS COPYRIGHT 1999 ACS  
 AB Filtering materials are soaked in treating solns. comprising aq. solns.  
 of  
 aq. emulsion resin dispersed with ZnO grains of particles size  
 .ltoreq.0.05 .mu.m (as antibacterial component), and dried to adhere the  
 antibacterial components on their surfaces. **Pyrrithione**  
**zinc** and/or Zn undecylenate grains of **particle** size  
 .ltoreq.1 .mu.m may be used as antibacterial components in addn. to ZnO.  
 The filters show high and durable antibacterial effects even after  
 washing, and are useful for air filters.

L18 ANSWER 1 OF 9 CAPLUS COPYRIGHT 1999 ACS

1999:114243 Document No. 130:197950 Storage-stable antifouling coating compositions. Nitta, Tomohisa; Sotomura, Sadaichi; Tsuneda, Kazuyoshi; Sasaki, Hiroharu (Dainippon Toryo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11043629 A2 19990216 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 97-203508 19970729.

AB The antifouling coating compns. contain (A) nonaq. dispersion-type resins having acid value 20-400, being dispersed in hydrocarbon-type solvents, and comprising hydrophilic core components with acid groups and hydrophobic skin components free of acid groups, (B) metal-contg. antifouling agents, and (C) HO<sub>2</sub>C-contg. monobasic compds. Thus, a 65%-solid dispersion stabilizer contg. 80.0:15.0:5.0:3.5 Bu methacrylate-2-ethylhexyl methacrylate-glycidyl methacrylate-methacrylic acid (I) copolymer having acid value 0 was prepd. in 40.0:10.0:5.0 mixt. of xylene (II), heptane (III), and mineral spirit (IV). Then the dispersion stabilizer 153.8, Me methacrylate 25.0, Me acrylate 60.0, and

I 15.3 parts were treated in 36.0:120.0:90.0 mixt. of II, III, and IV in  
the presence of AIBN to give a 40%-solid resin dispersion having acid value

50 KOH-mg/mg, av. **particle** diam. of the obtained resin 180 nm, and skin/core solid wt. ratio of the resin 50/50. A coating comprising the resin dispersion 30.0, lauric acid 7.0, ZnO 40.0, **Zn pyrithione** 2.0, talc 3.0, red Fe **oxide** 10.0, and IV 5.0

parts was sprayed onto an anticorrosive-coated steel plate to give test pieces having excellent self-polishing and antifouling property.

AB The antifouling coating compns. contain (A) nonaq. dispersion-type resins having acid value 20-400, being dispersed in hydrocarbon-type solvents, and comprising hydrophilic core components with acid groups and hydrophobic skin components free of acid groups, (B) metal-contg. antifouling agents, and (C) HO<sub>2</sub>C-contg. monobasic compds. Thus, a 65%-solid dispersion stabilizer contg. 80.0:15.0:5.0:3.5 Bu methacrylate-2-ethylhexyl methacrylate-glycidyl methacrylate-methacrylic acid (I) copolymer having acid value 0 was prepd. in 40.0:10.0:5.0 mixt. of xylene (II), heptane (III), and mineral spirit (IV). Then the dispersion stabilizer 153.8, Me methacrylate 25.0, Me acrylate 60.0, and

I 15.3 parts were treated in 36.0:120.0:90.0 mixt. of II, III, and IV in  
the presence of AIBN to give a 40%-solid resin dispersion having acid value

50 KOH-mg/mg, av. **particle** diam. of the obtained resin 180 nm, and skin/core solid wt. ratio of the resin 50/50. A coating comprising the resin dispersion 30.0, lauric acid 7.0, ZnO 40.0, **Zn pyrithione** 2.0, talc 3.0, red Fe **oxide** 10.0, and IV 5.0

parts was sprayed onto an anticorrosive-coated steel plate to give test pieces having excellent self-polishing and antifouling property.

IT 1314-13-2, **Zinc oxide**, uses 13463-41-7, **Zinc pyrithione**

RL: BUU (Biological use, unclassified); MOA (Modifier or additive use); BIOL (Biological study); USES (Uses)

(antifouling agents; storage-stable antifouling coatings contg. nonaq. dispersion-type core-shell polymers, antifouling agents, and monobasic compds.)

L18 ANSWER 2 OF 9 CAPLUS COPYRIGHT 1999 ACS

1998:716253 Document No. 129:335474 In-situ generation of zinc pyrithione in

shampoos. Hani, Rahim; Polson, George A. (Olin Corporation, USA). PCT Int. Appl. WO 9847372 A1 19981029, 28 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 98-US6917 19980407.

PRIORITY:

US 97-44629 19970418; US 98-38026 19980311.

- AB Disclosed is a shampoo comprising: (a) water or an alc., (b) at least one dispersant or surfactant, and (c) as an antimicrobial or preservative additive, **particles** of an in-situ transchelation reaction product of a water- or alc.-sol. zinc compd., i.e. zinc salt of org. or inorg. acid, zinc hydroxide and/or **zinc oxide**, with **pyrithione** acid or a pyrithione salt that is sol. in water or alc. Also disclosed is a process for prepg. the personal care compn., and a coated substrate contg. a coating of the personal care compn.
- AB Disclosed is a shampoo comprising: (a) water or an alc., (b) at least one dispersant or surfactant, and (c) as an antimicrobial or preservative additive, **particles** of an in-situ transchelation reaction product of a water- or alc.-sol. zinc compd., i.e. zinc salt of org. or inorg. acid, zinc hydroxide and/or **zinc oxide**, with **pyrithione** acid or a pyrithione salt that is sol. in water or alc. Also disclosed is a process for prepg. the personal care compn., and a coated substrate contg. a coating of the personal care compn.

L18 ANSWER 3 OF 9 CAPLUS COPYRIGHT 1999 ACS

1996:35126 Document No. 124:90563 Hydrophilization compositions, hydrophilization methods, and hydrophilized heat-exchanger aluminum fins. Sakai, Shigeo; Takeuchi, Naokazu; Ikagawa, Hiroshi; Hayashi, Masateru; Kashiwada, Seiji; Wakimoto, Mitsuo (Mitsubishi Heavy Ind Ltd, Japan; Kansai Paint Co Ltd). Jpn. Kokai Tokkyo Koho JP 07268009 A2 19951017 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 94-81068 19940329.

- AB Title compns., reducing Cr6+ to Cr3+, comprise (A) org.-inorg. **composite** materials obtained by reaction of vinyl-contg. aq. SiO2 dispersions, which are obtained by treating 100 parts H2O-dispersible

SiO2

and 0.1-10 parts vinylsilane monomers, with other polymerizable unsatd. monomers, (B) hardeners, (C) OH-contg. polyesters, (D) pyrithione-type antibacterial and antifungal agents, (E) silicone emulsions, and (F) amines. Aq. dispersions or solns. of 2-30% (as solid) the compns. are applied on chromate-treated Al fins and heat-dried to form hydrophilic coatings. Thus, 166 parts Cataloid S 20L (20% colloidal SiO2 dispersion) and 0.3 part KBM 503 were heated at 70.degree. for 2 h in H2O/Me2CHOH, then an aq. soln. contg. acrylamide 13.4, N-methylolacrylamide 6.7, 2-hydroxyethyl methacrylate 26.8, polyethylene glycol monomethacrylate 20.1, and ammonium persulfate 1.7 parts was added dropwise to the resulting dispersion and heated at 80.degree. for 2 h to give a 10%-solid org.-inorg. **composite** dispersion (A'), sep., polyethylene glycol 28.8, glycerin-ethylene **oxide** (10 mol) adduct 51.1, and maleic anhydride 20.1 parts were heated at 160-230.degree. for 8 h to give a polyester. An Al050 plate was chromate-treated, coated with an aq.

compn.

contg. A' 500, Nikalac MS 20U (70%-solid H2O-sol. urea resin soln.) 21.4, the polyester 23.5, aq. **Zn pyrithione** dispersion (50%-solid) 20, dimethylethanolamine 10, and BYK-080 (silicone emulsion) 1.5 parts, and baked at 170.degree. for 20 min to give a test piece showing contact angle 10.degree. initially and 28.degree. after immersed in running water for 500 h and good corrosion resistance.

- AB Title compns., reducing Cr6+ to Cr3+, comprise (A) org.-inorg. **composite** materials obtained by reaction of vinyl-contg. aq. SiO2 dispersions, which are obtained by treating 100 parts H2O-dispersible

SiO2

and 0.1-10 parts vinylsilane monomers, with other polymerizable unsatd. monomers, (B) hardeners, (C) OH-contg. polyesters, (D) pyrithione-type antibacterial and antifungal agents, (E) silicone emulsions, and (F) amines. Aq. dispersions or solns. of 2-30% (as solid) the compns. are applied on chromate-treated Al fins and heat-dried to form hydrophilic coatings. Thus, 166 parts Cataloid S 20L (20% colloidal SiO<sub>2</sub> dispersion) and 0.3 part KBM 503 were heated at 70.degree. for 2 h in H<sub>2</sub>O/Me<sub>2</sub>CHOH, then an aq. soln. contg. acrylamide 13.4, N-methylolacrylamide 6.7, 2-hydroxyethyl methacrylate 26.8, polyethylene glycol monomethacrylate 20.1, and ammonium persulfate 1.7 parts was added dropwise to the resulting dispersion and heated at 80.degree. for 2 h to give a 10%-solid org.-inorg. **composite** dispersion (A'), sep., polyethylene glycol 28.8, glycerin-ethylene **oxide** (10 mol) adduct 51.1, and maleic anhydride 20.1 parts were heated at 160-230.degree. for 8 h to give a polyester. An Al050 plate was chromate-treated, coated with an aq.

compn.

contg. A' 500, Nikalac MS 20U (70%-solid H<sub>2</sub>O-sol. urea resin soln.) 21.4, the polyester 23.5, aq. **Zn pyrithione** dispersion (50%-solid) 20, dimethylethanolamine 10, and BYK-080 (silicone emulsion) 1.5 parts, and baked at 170.degree. for 20 min to give a test piece showing contact angle 10.degree. initially and 28.degree. after immersed in running water for 500 h and good corrosion resistance.

L18 ANSWER 4 OF 9 CAPLUS COPYRIGHT 1999 ACS

1995:516482 Document No. 122:322506 Cosmetics containing fine powders and polymers for the skin of head. Takahashi, Toshe (Kao Corp, Japan). Jpn. Kokai Tokkyo Koho JP 07033626 A2 19950203 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 93-178308 19930719.

AB H<sub>2</sub>O/EtOH-based [H<sub>2</sub>O/EtOH = (100/0)-(10/90)] cosmetics, for the skin of head, contain (a) fine **powders** of 2-mercaptopyridine N-**oxide** polyvalent metal salts or SeS<sub>2</sub>, insol. in H<sub>2</sub>O and/or EtOH, and (b) cationic polymers and/or nonionic polymers. The cosmetics are stable and show good antidandruff, deodorant, and blood circulation-accelerating effects. Cosmetic contg. **Zn pyrithione** 0.1, Poval L-25 0.3, Catinal HC 100 0.1, and H<sub>2</sub>O to 100 wt.% was formulated.

AB H<sub>2</sub>O/EtOH-based [H<sub>2</sub>O/EtOH = (100/0)-(10/90)] cosmetics, for the skin of head, contain (a) fine **powders** of 2-mercaptopyridine N-**oxide** polyvalent metal salts or SeS<sub>2</sub>, insol. in H<sub>2</sub>O and/or EtOH, and (b) cationic polymers and/or nonionic polymers. The cosmetics are stable and show good antidandruff, deodorant, and blood circulation-accelerating effects. Cosmetic contg. **Zn pyrithione** 0.1, Poval L-25 0.3, Catinal HC 100 0.1, and H<sub>2</sub>O to 100 wt.% was formulated.

ST mercaptopyridine **oxide** water hair cosmetic; polymer ethanol hair antidandruff deodorant; selenium sulfide ethanol hair antidandruff

IT Polymers, biological studies

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(cationic or nonionic; stable antidandruff and deodorant hair preps. contg. mercaptopyridine **oxide** salt powder or SeS<sub>2</sub> powder and polymers in H<sub>2</sub>O/ethanol)

IT Bactericides, Disinfectants, and Antiseptics

(powder; stable antidandruff and deodorant hair preps. contg. mercaptopyridine **oxide** salt powder or SeS<sub>2</sub> powder and polymers in H<sub>2</sub>O/ethanol)

IT Dandruff

(prevention of; stable antidandruff and deodorant hair preps. contg. mercaptopyridine **oxide** salt powder or SeS<sub>2</sub> powder and polymers in H<sub>2</sub>O/ethanol)

IT Deodorants

(stable antidandruff and deodorant hair preps. contg.

mercaptopyridine

**oxide** salt powder or SeS<sub>2</sub> powder and polymers in H<sub>2</sub>O/ethanol)

IT Hair preparations

(antidandruff, stable antidandruff and deodorant hair preps. contg.

mercaptopyridine **oxide** salt powder or SeS2 powder and polymers in H2O/ethanol)

IT 64-17-5, Ethanol, biological studies 7488-56-4, Selenium disulfide  
 7732-18-5, Water, biological studies 13463-41-7, **Zinc pyrithione** 26590-05-6 124364-09-6, Gohsenol KH 17  
 138067-60-4, Catinal HC 100 163442-37-3, Poval L 25 163442-38-4, Catinal LC 100 163442-45-3, OKS 9013K  
 RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (stable antidandruff and deodorant hair preps. contg.)

mercaptopyridine  
**oxide** salt powder or SeS2 powder and polymers in H2O/ethanol)

L18 ANSWER 5 OF 9 CAPLUS COPYRIGHT 1999 ACS  
 1994:540672 Document No. 121:140672 Manufacture of antibacterial filtering materials. Nagata, Kenji; Ueno, Sadamitsu; Hotsuta, Hiroshi (Shinto Paint Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 06134227 A2 19940517 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 92-311206 19921026.

AB Filtering materials are soaked in treating solns. comprising aq. solns.  
 of aq. emulsion resin dispersed with ZnO grains of **particles** size .ltoreq.0.05 .mu.m (as antibacterial component), and dried to adhere the antibacterial components on their surfaces. **Pyrithione zinc** and/or Zn undecylenate grains of **particle** size .ltoreq.1 .mu.m may be used as antibacterial components in addn. to ZnO. The filters show high and durable antibacterial effects even after washing, and are useful for air filters.

AB Filtering materials are soaked in treating solns. comprising aq. solns.  
 of aq. emulsion resin dispersed with ZnO grains of **particles** size .ltoreq.0.05 .mu.m (as antibacterial component), and dried to adhere the antibacterial components on their surfaces. **Pyrithione zinc** and/or Zn undecylenate grains of **particle** size .ltoreq.1 .mu.m may be used as antibacterial components in addn. to ZnO. The filters show high and durable antibacterial effects even after washing, and are useful for air filters.

ST antibacterial filter **zinc oxide**; pyrithione zinc filter antibacterial; undecylenate zinc filter antibacterial; air purifn filter antibacterial

IT Filters and Filtering materials  
 (antibacterial, coated with **zinc oxide**)

IT Air purification  
 (filters for, with antibacterial **zinc oxide** coatings)

IT Glass fibers, uses  
 Polypropene fibers, uses  
 RL: USES (Uses)  
 (filters, antibacterial, coated with **zinc oxide**)

IT Polyesters, uses  
 Polyethers, uses  
 RL: USES (Uses)  
 (in coating of antibacterial **zinc oxide** on filters)

IT Bactericides, Disinfectants, and Antiseptics  
 (**zinc oxide**, filters coated with)

IT 1314-13-2, **Zinc oxide**, miscellaneous  
 RL: MSC (Miscellaneous)  
 (antibacterial components, filters coated with)

IT 557-08-4, Zinc undecylenate 13463-41-7, Pyrithione zinc  
 RL: OCCU (Occurrence)  
 (antibacterial components, filters coated with **zinc oxide** and)

IT 9003-07-0, Polypropene  
 RL: OCCU (Occurrence)  
 (fibers, filters, antibacterial, coated with **zinc**

oxide)  
IT 42618-16-6, PE 20 82200-41-7, Vylonal MD 1200 109766-86-1, Hardlen E  
101  
RL: OCCU (Occurrence)  
(in coating of antibacterial **zinc oxide** on filters)

L18 ANSWER 6 OF 9 CAPLUS COPYRIGHT 1999 ACS  
1994:200159 Document No. 120:200159 Liquid cleansing compositions  
containing

surfactants, silicone oils, water-insoluble powders, and nonionic  
polymers. Kametani, Jun; Kobayashi, Hisataka (Kao Corp, Japan). Jpn.  
Kokai Tokkyo Koho JP 05310539 A2 19931122 Heisei, 8 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 92-120593 19920513.  
AB Liq. cleansing compns. (e.g. shampoos) contain surfactants chosen from  
anionic surfactants, amphoteric surfactants, and nonionic surfactants  
2-50, silicone oils (sp. gr. <1.0) 0.01-10, water-insol. fine  
**particles** (**particle** size 0.01-100 .mu.m, sp. gr.  
.gtoreq.1.0) 0.01-10, water-sol. nonionic polymers chosen from poly(vinyl  
alc.) and cellulose derivs. 0.01-10 wt.%, and H2O. The compns. show  
hair-conditioning effect. A shampoo contg. polyoxyethylene lauryl

sulfate  
Na salt 18, coco fatty acid diethanolamide 3, di-Me polysiloxane 3,  
**Zn pyrithione** 1, Metolose 60SH-50 3, and H2O to 100 wt.%  
was formulated.

AB Liq. cleansing compns. (e.g. shampoos) contain surfactants chosen from  
anionic surfactants, amphoteric surfactants, and nonionic surfactants  
2-50, silicone oils (sp. gr. <1.0) 0.01-10, water-insol. fine  
**particles** (**particle** size 0.01-100 .mu.m, sp. gr.  
.gtoreq.1.0) 0.01-10, water-sol. nonionic polymers chosen from poly(vinyl  
alc.) and cellulose derivs. 0.01-10 wt.%, and H2O. The compns. show  
hair-conditioning effect. A shampoo contg. polyoxyethylene lauryl

sulfate  
Na salt 18, coco fatty acid diethanolamide 3, di-Me polysiloxane 3,  
**Zn pyrithione** 1, Metolose 60SH-50 3, and H2O to 100 wt.%  
was formulated.

IT 111-42-2D, Diethanolamine, N-coco fatty acid amide 139-96-8  
141-43-5D,  
N-coco fatty acid amide 1643-20-5, Lauramine **oxide** 4337-75-1  
9004-82-4, Polyoxyethylene lauryl sulfate sodium salt 59080-45-4  
60817-15-4

RL: BIOL (Biological study)  
(conditioning shampoos contg. silicone oils and water-insol. particles  
and water-sol. polymers and)

L18 ANSWER 7 OF 9 CAPLUS COPYRIGHT 1999 ACS  
1991:589486 Document No. 115:189486 Gel cosmetics containing a suspension  
of

solid lipid spheroidal particles. Kauffmann, Myriam (Oreal S. A., Fr.).  
Fr. Demande FR 2649608 A1 19910118, 16 pp. (French). CODEN: FRXXBL.  
APPLICATION: FR 89-9421 19890712.

AB The title gels contain a continuous phase suspension of spheroidal  
particles of a nonhydrophilic solid lipid substance which melts on  
application on the body. The particles are of diam. 50-10,000 .mu.m.

The  
spheroidal particles may be loaded with a perfume, essential oil,  
colorant, etc. The lipid substance is e.g. a triglyceride (of satd.  
linear C8-18 fatty acids), silicone wax, or solid fraction of vegetable  
fat. Prepn. of the spheroids is described. The particles are used in  
prepn. of gel mascara, gingival gels, gels for scalp treatment, emollient  
gels, cleansing gels, etc. Thus, a cleansing gel prepn. included  
spheroidal particles contg. Suppocire DM, silica powder, and perfume  
conc.

The particles melted at 39-42.degree..  
IT 58-95-7, .alpha.-Tocopherol acetate 1332-37-2, Iron **oxide**,  
biological studies 1490-04-6 7631-86-9, Silica, biological studies  
11118-57-3, Chromium **oxide** 13463-41-7, **Zinc**



**pyrithione** 13463-67-7, Titanium dioxide, biological studies  
43119-47-7, .alpha.-Tocopherol nicotinate  
RL: BIOL (Biological study)  
(spheroidal lipid **particles** contg., in cosmetic gels)

L18 ANSWER 8 OF 9 CAPLUS COPYRIGHT 1999 ACS

1985:509766 Document No. 103:109766 Dispersions of antifungal agents and antifungal hair treatment compositions. Takaya, Susumu; Hirota, Hajime (Kao Corp., Japan). Eur. Pat. Appl. EP 149175 A2 19850724, 29 pp.  
DESIGNATED STATES: R: AT, CH, DE, FR, GB, LI. (English). CODEN:

EPXXDW.

APPLICATION: EP 84-115690 19841218. PRIORITY: JP 83-248353 19831227.

AB Antifungal and hair antifungal stable aq. dispersions comprise 2-mercaptopyridine N-**oxide** metal salts and polymers such as polyglycol-polyamine condensation resin or -alkyl or -alkyleneamine condensation resin and the compns. are useful for dandruff control. The dispersion is resistant to salts, and once frozen and then melted,

remains

unchanged. The dispersion is also stable when added to bases of hair preps. Thus, an antifungal compn. contained **pyrithione zinc** [13463-41-7] (**powder**) 15, Polyquart H [63601-33-2] 60, and H<sub>2</sub>O to 100%. The **pyrithione zinc** was added to an aq. dild. soln. of the resin (60:25) and mixed under agitation to obtain the dispersion. The stability of the dispersion was demonstrated at room temp. and 40.degree. after 1 mo, and after being frozen and then melted.

AB Antifungal and hair antifungal stable aq. dispersions comprise 2-mercaptopyridine N-**oxide** metal salts and polymers such as polyglycol-polyamine condensation resin or -alkyl or -alkyleneamine condensation resin and the compns. are useful for dandruff control. The dispersion is resistant to salts, and once frozen and then melted,

remains

unchanged. The dispersion is also stable when added to bases of hair preps. Thus, an antifungal compn. contained **pyrithione zinc** [13463-41-7] (**powder**) 15, Polyquart H [63601-33-2] 60, and H<sub>2</sub>O to 100%. The **pyrithione zinc** was added to an aq. dild. soln. of the resin (60:25) and mixed under agitation to obtain the dispersion. The stability of the dispersion was demonstrated at room temp. and 40.degree. after 1 mo, and after being frozen and then melted.

ST zinc pyrithione dispersion fungicide; hair prepn fungicide zinc pyrithione; mercaptopyridine **oxide** metal salt fungicide; polyglycol polyamine resin fungicide dispersion; shampoo fungicide zinc pyrithione; dandruff fungicide zinc pyrithione

L18 ANSWER 9 OF 9 CAPLUS COPYRIGHT 1999 ACS

1969:59152 Document No. 70:59152 Antimicrobial detergent compositions. Parran, John J., Jr. (Procter and Gamble Co.). S. African ZA 6704902 19680118, 28 pp. (English). CODEN: SFXAB. APPLICATION: ZA 19670815.

AB Detergent compns. having antimicrobial qualities and useful as shampoos comprise org. surfactants 2-95, an H<sub>2</sub>O-sol. polyethylenimine or alkoxyated polyethylenimine 0.1-4.0, and a heavy metal salt of 2-pyridinethiol-1-**oxide** 0.1-10 wt. %. These components may be incorporated in an aq. vehicle with any of the following: org. solvents like EtOH; thickeners like CM-cellulose, Mg Al silicate, hydroxyethyl cellulose or Me cellulose; perfumes; sequestering agents like tetra-Na EDTA; or opacifiers like Zn or Mg stearates. Surfactants include

anionic,  
ampholytic, polar nonionic, nonionic, zwitterionic, or cationic materials.

The preferred polymers have mol. wts. of 3000-100,000. Metal salts of 0.5-30 .mu. av. **particle** size include Zn, Cd, Sn, or Zr, which are premixed with the polymer before addn. to the aq. vehicle. Thus, a shampoo compn. was prepd. from Na coconut alkyl glyceryl ether sulfonate (.apprx.23 diglyceryl, remainder monoglyceryl) 25.0; Na tallow alkyl glyceryl ether sulfonate (.apprx.23% diglyceryl, remainder monoglyceryl,

tallow alkyl satd. alcs. .apprx.2% C14, 32% C16, 66% C18) 3.0; NaCl 6.7; Na2SO4 3.3; Na N-lauroyl sarcosinate 3.8; N-coconut acyl sarcosine 1.2; diethanolamide of coconut fatty acids 2.0; acetylated lanolin 1.0;

perfume

0.4; color 0.04; Zn 2-pyridinethiol-1-**oxide** (av. **particle** size 2 .mu.) 2.0; polyethylenimine-ethylene **oxide** reaction product (wt. ratio 1:1, mol. wt. 80,000-120,000) 0.5 wt. %; rest H2O. The metal salt and the polymer were premixed and added to a mixt.

of

the other components. This formed a stable cream having excellent cosmetic and antidandruff properties that deposited **Zn pyridinethione** to a greater degree than a similar compn. contg. no polymer. After shampooing with a control compn. and with the compn. of the example, cornified epithelium samples from scalps viewed with a polarizing microscope showed greater salt deposition in the latter case.

AB

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09/120,664

(FILE 'USPAT' ENTERED AT 13:20:45 ON 04 JUN 1999)

L1 E GAVIN, D ?/IN  
24 S E5,E8  
L2 E WALDRON, C ?/IN  
14 S E11  
E MARTIN, R ?/IN  
E MARTIN, RO ?/IN  
L3 40 S E4-E5,E24  
E POLSON, G ?/IN  
L4 0 S L1 AND L2 AND L3  
L5 1 S L1 AND (L2 OR L3)  
L6 844 S (ZN OR ZINC) (3A) (PYRITHION? OR PYRIDIN?)  
L7 36630 S (ZN OR ZINC) (3A) (OXIDE?)  
L8 132 S L6(P)L7  
L9 35 S (PARTICLE? OR POWDER? OR PRECIPITAT?) (2P)L8  
L10 35621 S (ZN OR ZINC) (2A) (OXIDE?) OR ZNOSUB2  
L11 35621 S L10(P)L7  
L12 10472 S L11(P) (COMPOSITE? OR PARTICLE? OR POWDER?)  
L13 53 S (ZN OR ZINC) (2A) (PYRITHION? OR PYRIDINETHION?) (5A) (ZN OR  
ZI  
L14 10 S L13(P) (COMPOSITE? OR CORE? OR SHELL? OR PARTICLE? OR POW  
DER  
L15 7 S (ZINC PYRITHION?) (5A) (ZINC OXIDE?)

FILE 'EPOABS' ENTERED AT 13:55:26 ON 04 JUN 1999

L16 0 S L15  
L17 27 S (ZINC OR ZN) (2A) (PYRIDINETHION? OR PYRITHION?)  
L18 3 S L17 AND (PARTICLE? OR POWDER? OR COMPOSITE?)  
L19 0 S (ZINC OR ZN) (2A) (PYRIDINETHION? OR PYRITHION?) AND (ZINC  
OX

FILE 'JPOABS' ENTERED AT 13:57:47 ON 04 JUN 1999

L20 58 S L6  
L21 2 S L20 AND (ZINC OXIDE?)

09/120,664

(FILE 'USPAT' ENTERED AT 13:20:45 ON 04 JUN 1999)

L1 E GAVIN, D ?/IN  
24 S E5,E8  
E WALDRON, C ?/IN  
L2 14 S E11  
E MARTIN, R ?/IN  
E MARTIN, RO ?/IN  
L3 40 S E4-E5,E24  
E POLSON, G ?/IN  
L4 0 S L1 AND L2 AND L3  
L5 1 S L1 AND (L2 OR L3)  
L6 844 S (ZN OR ZINC) (3A) (PYRITHION? OR PYRIDIN?)  
L7 36630 S (ZN OR ZINC) (3A) (OXIDE?)  
L8 132 S L6(P)L7  
L9 35 S (PARTICLE? OR POWDER? OR PRECIPITAT?) (2P)L8  
L10 35621 S (ZN OR ZINC) (2A) (OXIDE?) OR ZNOSUB2  
L11 35621 S L10(P)L7  
L12 10472 S L11(P) (COMPOSITE? OR PARTICLE? OR POWDER?)  
L13 53 S (ZN OR ZINC) (2A) (PYRITHION? OR PYRIDINETHION?) (5A) (ZN OR  
ZI  
L14 10 S L13(P) (COMPOSITE? OR CORE? OR SHELL? OR PARTICLE? OR POW  
DER  
L15 7 S (ZINC PYRITHION?) (5A) (ZINC OXIDE?)

**SUMMARY:****BSUM(9)**

It is also known to prepare antimicrobial compositions utilizing finely powdered polyvalent metal salts of 2-mercaptopyridine-N-oxide, e.g., zinc pyridinethione. See, for example, U.S. Pat. No. 4,832,950 (Takaya et al., issued May 23, 1989) and U.S. Pat. No. 4,670,430 (Inamura et al., issued Jun. 2, 1987). In these compositions, very small average particle size of less than 0.2 microns, are said to provide improved dispersion stability without the use of polymeric suspending agents or other means to suspend larger particles. Compared to such prior compositions, the compositions of Imamura et al. are said to provide improved adsorbability. Takaya et al. teaches further suspension stability of the small particles of Imamura et al. via the use of a specific dispersant selected from the group consisting of: (A) polyglycol/polyamine polyglycol/polyamine/alkylamine. . .

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## ABSTRACT:

The present invention relates generally to paints and paint bases, and, more specifically to a process and composition for providing a stable gel-free dispersion of zinc pyrithione plus cuprous oxide biocide in paint. In accordance with the process of the present invention, the paint or paint base contains an amine treated wood rosin in order to impart desired gelation-inhibition to the paint.

## DETDESC:

## DETD(19)

2.8

DISPERBYK 163 (2)	5.1	1.5
Tributyl Phosphate	6.45	2.0
Cuprous Oxide	136.5	41.4
TITANOX (3)	7.5	2.3
Zinc pyrithione powder		
	25.5	7.7
Wood Rosin (4)	6.3	1.9
Solvent Mixture	133.0	40.0

(1) vinyl chloride-vinyl acetate-vinyl alcohol terpolymer, a. . . to the paint can and mixed with a high speed disperser at 1000 RPM for 10 minutes.

(4) The cuprous oxide, zinc pyrithione, titanox, and 10.8 g carbitol acetate were added to the paint can and mixing was continued at 7000 RPM for. . .

US PAT NO: 4,161,526 [IMAGE AVAILABLE]

L15: 7 of 7

ABSTRACT:

Pyrrithione, pyrrithione salt or dipyrrithione compositions containing the zinc salt of an organic or inorganic acid, zinc hydroxide or zinc oxide or a mixture thereof for prevention or removal of discoloration in said compositions, and the process of preventing such discoloration, are disclosed.

US PAT NO: 5,908,856 [IMAGE AVAILABLE]

L8: 1 of 132

SUMMARY:

BSUM(35)

The . . . as 3-tri-methoxysilyl, propyl octadecyl dimethyl ammonium chloride, (Tradename DC5700--Dow Corning), cis-1-acetyl-4-[4[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3 dioxalan-4-yl]methoxy]phenyl] piperazine (tradename--Ketoconazole), 1-(4-chlorophenoxy)-1-(1 H-Imidazolyl)-3,3 dimethyl-2-butanone (tradename--Climbazole) and **zinc-bis(2-pyridine-thiol 1-oxide)** (tradename **Zn Pyrithione**) and mixtures thereof.



1. 5,883,154, Mar. 16, 1999, Discoloration prevention in pyrithione-containing coating compositions; Paul S. Kappock, et al., 523/122; 106/15.05, 18.32, 18.34, 18.36; 252/397, 400.52, 405, 406; 514/188; 524/99 [IMAGE AVAILABLE]
2. 5,562,995, Oct. 8, 1996, Discoloration prevention in pyrithione-containing coating compositions; Paul S. Kappock, et al., 428/469; 106/18.33, 18.34, 18.36; 428/472 [IMAGE AVAILABLE]
3. 5,518,774, May 21, 1996, In-can and dry coating antimicrobial; Paul S. Kappock, et al., 427/384; 106/18.33, 18.36; 427/385.5; 514/183, 184, 191, 222.2, 494, 499; 523/122 [IMAGE AVAILABLE]
4. 5,342,437, Aug. 30, 1994, Gel-free paint containing zinc pyrithione cuprous oxide and carboxylic acid; David F. Gavin, et al., 106/18.33, 16, 18.34; 424/78.09; 504/152; 514/345, 494, 499, 500; 523/122 [IMAGE AVAILABLE]
5. 5,319,000, Jun. 7, 1994, Process for stable biocide dispersion; James M. O'Connor, et al., 523/122 [IMAGE AVAILABLE]
6. 5,298,061, Mar. 29, 1994, Gel-free paint containing zinc pyrithione, cuprous oxide, and amine treated rosin; **Craig Waldron**, et al., 106/18.33, 16, 18.34; 424/78.09; 504/121; 514/188, 345, 494; 523/122 [IMAGE AVAILABLE]
7. 5,252,123, Oct. 12, 1993, Gel-free paint containing cuprous oxide plus 2,2'-dithiobis (pyridine-1-oxide) compound; Rahim Hani, et al., 106/18.33, 16, 18.34; 504/121; 514/188, 345, 499, 500 [IMAGE AVAILABLE]
8. 5,246,489, Sep. 21, 1993, Process for generating copper pyrithione in-situ in a paint formulation; Douglas A. Farmer, Jr., et al., 106/18.33, 16, 18.34; 424/78.09; 504/152; 514/345, 494, 499, 500; 523/122 [IMAGE AVAILABLE]
9. 5,238,490, Aug. 24, 1993, Process for generating copper pyrithione in-situ in a paint formulation; Douglas A. Farmer, Jr., et al., 106/18.33, 16, 18.34; 504/121; 514/188, 345, 499, 500 [IMAGE AVAILABLE]
10. 5,232,493, Aug. 3, 1993, Process for stabilizing zinc pyrithione plus cuprous oxide in paint; **Craig Waldron**, et al., 106/18.33, 16, 18.34; 424/78.09; 514/188, 345, 499, 500 [IMAGE AVAILABLE]
11. 5,185,033, Feb. 9, 1993, Gel-free paint containing copper pyrithione or pyrithione disulfide plus cuprous oxide; Rahim Hani, et al., 106/18.33, 16, 18.34; 504/121; 514/188, 345, 499, 500 [IMAGE AVAILABLE]
12. 5,137,569, Aug. 11, 1992, Process for stabilizing zinc pyrithione plus cuprous oxide in paint; **Craig Waldron**, et al., 106/18.33, 16, 18.34; 514/188, 345, 499, 500 [IMAGE AVAILABLE]
13. 5,112,397, May 12, 1992, Process for stabilizing zinc pyrithione plus cuprous oxide in paint; Douglas A. Farmer, Jr., et al., 106/18.33, 15.05, 16, 18.32, 18.34; 504/121; 514/188, 345, 499, 500 [IMAGE AVAILABLE]
14. 5,098,473, Mar. 24, 1992, Process for stabilizing zinc pyrithione plus cuprous oxide in paint; Rahim Hani, et al., 106/18.33, 15.05, 16,

24. 3,759,932, Sep. 18, 1973, METHOD FOR PREPARING MERCAPTOPYRIDINES  
USING ALKALI METAL POLYSULFIDES; David F. Gavin, et al., 546/290,  
261, 297, 303 [IMAGE AVAILABLE]

US PAT NO: 3,759,932 [IMAGE AVAILABLE]

L1: 24 of 24

ABSTRACT:

This invention relates to an improved and economical method for preparing mercaptopyridines by reaction of selected halosubstituted pyridines with an alkali metal polysulfide.

06-134227

May 17, 1994

L21: 2 of 2

PREPARATION OF ANTIBACTERIAL FILTER MEDIUM

INVENTOR: KENJI NAGATA, et al. (2)  
ASSIGNEE: SHINTO PAINT CO LTD, et al. (70)  
APPL NO: 04-311206  
DATE FILED: Oct. 26, 1992  
PATENT ABSTRACTS OF JAPAN  
ABS GRP NO: C1238  
ABS VOL NO: Vol. 18, No. 437  
ABS PUB DATE: Aug. 16, 1994  
INT-CL: B01D 39/14; B01D 39/00; F24F 1/00

ABSTRACT:

PURPOSE: To prepare a filter medium of good processability and shelf stability which can maintain antibacterial properties for a long time by fixing **zinc oxide** of specified particle diameter and, if required, **zinc pyrithion** and/or **zinc undecylenic acid** as an antibacterial component fixed on the surface of a filter medium.

CONSTITUTION: A filter medium is immersed in treatment liquid composed of aqueous emulsion water solution in which an antibacterial component composed of **zinc oxide** of 0.05.mu.m particle diameter or less is dispersed and then dried and the antibacterial component is fixed on the surface of a filter medium. As the antibacterial component, **zinc pyrithion** and/or **zinc undecylenic acid** of 1.mu.m particle diameter or less is used in addition to **zinc oxide**. The filter medium thus prepared is provided with antibacterial properties after being washed with water, and can be used as an air filter economically.

07-118103

May 9, 1995

L21: 1 of 2

METHOD FOR TREATING STAINLESS STEEL PROCESSED PART IN ELECTRIC WASHING  
MACHINE WITH ANTIMICROBIAL AND ANTIFUNGAL AGENT COMPOSITION

INVENTOR: RYUZO FUJITA, et al. (3)

ASSIGNEE: DAIWA KAGAKU KOGYO KK

APPL NO: 05-297198

DATE FILED: Oct. 22, 1993

PATENT ABSTRACTS OF JAPAN

ABS GRP NO:

ABS VOL NO:

ABS PUB DATE:

INT-CL: A01N 25/00; A01N 25/08; A01N 43/40; C09D 5/14

ABSTRACT:

PURPOSE: To provide a method for always keeping the outside and inside of the tank in an electric washing machine and the wash clean by coating the outer wall of the washing tank, the inside wall of the water receiver with a coating material containing an antimicrobial and antifungal agent to form an antimicrobial coating layers to control the growth of microorganisms for a long period of time.

CONSTITUTION: The outer wall of the washing and dewatering tank 1 and the inner wall of the water receiver 2 both of which are made of processed stainless steel are coated with a coating material containing a antimicrobial and antifungal agent so that the antimicrobial and antifungal coating layers control the growth of bacteria, molds, yeasts and the like and prevents them from forming depositions whereby the wash is prevented from being contaminated with the microorganisms. The antimicrobial and antifungal agent is singly 2-pyridine-thiol 1-oxide zinc salt or a combination thereof with zinc oxide at a ratio of 1/1-1/20 and used in an amount of 0.01 to 5.0%, preferably 0.05 to 3.0% in case of a liquid coating or 0.05 to 2.0% in case of powdery one. As a coating to be used, are cited an epoxy resin, acrylic resin, polyester resin, polyurethane resin, fluorine resin and the like.

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